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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,515	02/11/2001	Xiaoyuan Dong	3-9	6815

7590 04/08/2003

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EXAMINER	
LOPEZ, CARLOS N	
ART UNIT	PAPER NUMBER
1731	

DATE MAILED: 04/08/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/781,515	DONG ET AL.	
	Examiner	Art Unit	
	Carlos Lopez	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-19 is/are pending in the application.

4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,4 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-13, drawn to method of making an overclad optical fiber, classified in class 65, subclass 412.

II. Claim14-19, drawn to apparatus for making an overclad optical fiber, classified in class 65, subclass 483.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by another materially different apparatus such as varying the size of the heated portion of the preform by a movable heating means without configuring the support of the preform.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with John Harman on 3/28/03 a provisional election was made without traverse to prosecute the invention of group 1, claims 1-13. Affirmation of this election must be made by applicant in replying to this Office action. Claims 14-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "the matching" (Clm 1, line 8 and Clm. 10 line 9) lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,6-9, 10 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Baumgart et al (US 4,820,322). Baumgart discloses a method for overcladding a preform rod (Abstract). Baumgart's method provides for a cladding tube 30 to be collapsed onto perform rod (22) as they are both fed into a furnace (80) (Col. 8, lns. 47-60), which reads on applicant's claimed positioning and heating steps. As shown in figure 10 a preform (100) is being collapsed onto overclad tube (104) by advancing the rod and tube into the furnace (113) (Col.9, lns. 46-54). The advancement of the distal ends of the overclad tube and perform rod into the heating furnace is deemed as the claimed adjustment of the size of a heated portion of the preform and overclad. The claimed improvement of matching between the overclad and perform rod is inherent since Baumgart meets the claimed adjusting step.

As for claim 6, as taught by Baumgart, there exist a pressure gradient between the interior and exterior of the cladding tube (Col. 9, ln.51-54) by providing a vacuum in the interior of the tube (Col. 9, lns. 38-42).

As for claim 7, an optical fiber (114) is drawn from the overclad optical fiber perform as shown in figure 10 and noted in Col. 9, lns. 49-51.

As for claim 8, the heating step is performed by a single heat source (113) shown in figure 10.

As for claim 9, the preform and overclad tube are substantially coaxial as shown in figure 10 (Also note Col. 5,Lns. 35-39).

As detailed above Baumgart provides for positioning, establishing a pressure gradient, heating, adjusting and drawing steps that meet the limitations of Applicant's claim 10.

As for claim 13, the heating and drawing step are performed using the same heating source as shown in figure 10.

Claims 1-5 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Dobbins (WO 97/30944). Dobbins discloses a method for making an optical fiber by positioning an overclad tube (200) over a preform core rod (100) (Figure 1), meeting applicant's claimed positioning step. The overclad tube and preform core rod are each connected to down feeds 202 and 102 respectively to allow for individual control of the feeding velocities into the furnace (300)(Abstract). Thus allowing for a control of the diameter core rod by varying the feeding velocities of said the core and overclad into the furnace (Abstract, Claim 1 and bridging paragraph of pages 3-4). Heating of the overclad tube (200) collapses onto perform core rod (100) at the heating furnace (300) (Page 6, lines 4-12) and the size adjustment of the heated portion of the preform rod and overclad tube is controlled by the feeding velocity of the clad tube and core rod into the furnace (300) (Page 5 lines 29-34) meeting applicant's heating and adjusting steps. The claimed improvement of matching between the overclad and perform rod is inherent since Dobbins meets the claimed adjusting step.

As for claim 2, as taught by Dobbin the diameter size of the core varies along the length of the resulting fiber due to the variance of the tube or rod passing through the furnace, feeding rates, (Bridging Para. of pages 4-5) and as shown in figure 1 a resulting fiber whose core diameter size is larger at different corresponding axial position of the clad tube 200 is accomplished if the heated portion size of the preform rod varies by effecting a change in the feeding rate of the overclad tube and preform rod.

As for claim 3, by increasing the feeding rate of the core rod into the furnace (300) would result in a reduction of its axial length.

As for claim 4, since Dobbins states that the total mass flow rate is constant (Abstract), an increase in the core diameter of the resultant optical fiber is achieved by a decrease in the size of the overclad tube being heated in order to maintain a constant mass flow rate.

As for claim 5, increasing the feeding velocity of the overclad tube being heated in order to maintain constant flow rate would decrease the axial length of the overclad tube in order to obtain a resultant optical fiber with areas of decreased the core diameter.

As for claim 7, an optical fiber is drawn (Fig. 1).

As for claim 8, the drawing and heating step are performed using the same heating source (300) as shown in figure 1.

As for claim 9, figure 1 shows the preform core rod 100 substantially coaxial with overclad tube (200).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbins (WO 97/30944) as applied to claims 1-5 and 7-9 above and in view of Fleming Jr. et al (US 5,578,106). Dobbins is silent in establishing a pressure gradient across the overclad tube wherein the pressure outside the overclad tube is greater than the pressure inside. However, as taught by Fleming, reducing the air pressure between the rod and tube aids in the elimination of potential contaminants and biases the tube to collapse against the rod (Column 1, lines 49-62). At the time the invention was made it would have been obvious to one of ordinary skill in the art to have reduce the pressure between the overclad tube and rod of Dobbins in order to eliminate potential contaminants and biasing the tube to collapse against the rod as taught by Fleming.

As for claim 11, a compressive force would be created when the feeding velocity of the core rod being heated is increased relative to a corresponding axial position of the overclad tube in order to have a resultant fiber optic with an increased core diameter.

As for claim 12, a compressive force would be created when the feeding velocity of the overclad tube being heated is increased relative to a corresponding axial position of the core rod in order to have a resultant fiber optic with an decreased core diameter.

As for claim 13, the drawing and heating step are performance using the same heating source (300) as shown in figure 1.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References B-E in PTO-892 have been cited to show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is (703) 605-1174. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (703) 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

STEVEN P. GRIFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

C.L
March 31, 2003